

The opinion in support of the decision being entered today was not written  
for publication and is not binding precedent of the Board.

Paper No. 28

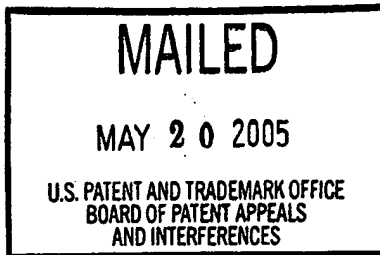
**UNITED STATES PATENT AND TRADEMARK OFFICE**

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

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Ex parte GARY S. STRUMOLO, RONALD H. MILLER  
and VISWANATHAN BABU



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Appeal No. 2005-0994  
Application No. 09/432,485

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ON BRIEF

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Before FRANKFORT, McQUADE, and NASE, Administrative Patent Judges.  
NASE, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1 to 6,  
which are all of the claims pending in this application.

We REVERSE.

BACKGROUND

The appellants' invention relates to a method and system of paint spray particle trajectory analysis for computer aided vehicle design (specification, p. 1). A copy of the claims under appeal is set forth in the appendix to the appellants' brief.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Strumolo	5,568,404	Oct. 22, 1996'
Miller et al. (Miller), "Transient CFD Simulations of a Bell Sprayer," Sept. 1998		
Kinema/SIM Manual, ArSciMed, 1996		

Claims 1 to 6 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Miller.

Claims 1 to 6 stand rejected under 35 U.S.C. § 103 as being unpatentable over the Kinema/SIM Manual in view of Strumolo or Miller.

Rather than reiterate the conflicting viewpoints advanced by the examiner and the appellants regarding the above-noted rejections, we make reference to the answer (mailed December 5, 2003) for the examiner's complete reasoning in support of the

rejections, and to the brief (filed October 24, 2003) and reply brief (filed February 9, 2004) for the appellants' arguments thereagainst.

### OPINION

In reaching our decision in this appeal, we have given careful consideration to the appellants' specification and claims, to the applied prior art references, and to the respective positions articulated by the appellants and the examiner. As a consequence of our review, we make the determinations which follow.

#### **The anticipation rejection**

We will not sustain the rejection of claims 1 to 6 under 35 U.S.C. § 102(b).

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. Verdegaal Bros. Inc. v. Union Oil Co., 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir.), cert. denied, 484 U.S. 827 (1987). The inquiry as to whether a reference anticipates a claim must focus on what subject matter is encompassed by the claim and what subject matter is described by the reference. As set forth by the court in Kalman v. Kimberly-Clark Corp., 713 F.2d 760, 772, 218 USPQ 781, 789 (Fed. Cir. 1983), cert. denied, 465 U.S. 1026 (1984), it is only necessary for the claims to "'read on' something

disclosed in the reference, i.e., all limitations of the claim are found in the reference, or 'fully met' by it."

Miller is directed to transient CFD (computational fluid dynamics) simulations of a bell sprayer. Miller utilizes a commercially available CFD package (PowerFlow™) coupled with a visualization and particle trajectory algorithm (SpraySIM) to model paint particle trajectories from a bell sprayer.

Claims 1 to 6 recite, in one manner or another, utilizing a computer aided design (CAD) model representative of a desired portion of a vehicle in a system or method for designing a vehicle. Miller does not disclose this limitation. Thus, Miller does not disclose (1) spray gun placement code means as recited in claim 1; (2) trajectory display code means as recited in claim 1; (3) the preparing step of claim 5; (4) the placing step of claim 5; (5) the first storing step of claim 6; (6) the first displaying step of claim 6; (7) the placing step of claim 6; and (8) the second displaying step of claim 6. Accordingly, claims 1 to 6 are not anticipated by Miller.

For the reasons set forth above, the decision of the examiner to reject claims 1 to 6 under 35 U.S.C. § 102(b) is reversed.

### **The obviousness rejection**

We will not sustain the rejection of claims 1 to 6 under 35 U.S.C. § 103.

The obviousness rejection before us in this appeal is based on the combined teachings<sup>1</sup> of the Kinema/SIM Manual and Strumolo **or** the combined teachings of the Kinema/SIM Manual and Miller.<sup>2</sup> It is not based on the combined teachings of the Kinema/SIM Manual, Strumolo and Miller.<sup>3</sup>

The Kinema/SIM Manual is directed to a highly interactive software tool that presents a simulation space where one can construct and animate complex physical phenomena.

Strumolo's invention relates to methods and systems for predicting sound pressure levels (SPLs) within a vehicle and, in particular, to a method and system for predicting sound pressure levels within a vehicle due to wind noise. The method utilizes a programmable digital computer system. The method includes the steps of

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<sup>1</sup> The test for obviousness is what the combined teachings of the references would have suggested to one of ordinary skill in the art. See In re Young, 927 F.2d 588, 591, 18 USPQ2d 1089, 1091 (Fed. Cir. 1991) and In re Keller, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981).

<sup>2</sup> See the statement of the rejection (answer, p. 5).

<sup>3</sup> Id.

storing in a memory of the computer system a first set of data representing geometry of at least one part of the vehicle capable of vibrating by the wind and vehicle speed. The method also includes the step of storing in the memory a second set of data representing three distinct pressure spectra for vortex, reattached and turbulent boundary layer flows. The method finally includes the steps of computing a third set of data representing SPLs within the vehicle due to sound radiated by the at least one part into the vehicle based on the first and second sets of data, and converting the third set of data into a first set of visual indicia representing the SPLs.

After the scope and content of the prior art are determined, the differences between the prior art and the claims at issue are to be ascertained. Graham v. John Deere Co., 383 U.S. 1, 17-18, 148 USPQ 459, 467 (1966).

Based on our analysis and review of the Kinema/SIM Manual and independent claims 1, 5 and 6, it is our opinion that the differences are: (1) spray gun placement code means as recited in claim 1; (2) trajectory determination code means as recited in claim 1; (3) trajectory display code means as recited in claim 1; (4) the preparing step of claim 5; (5) the placing step of claim 5; (6) the specifying step of claim 5; (7) the computing step of claim 5; (8) the displaying step of claim 5; (9) the repositioning step of claim 5; (10) the first storing step of claim 6; (11) the first displaying step of claim 6;

(12) the placing step of claim 6; (13) the second storing step of claim 6; (14) the computing step of claim 6; (15) the second displaying step of claim 6; and (16) the repositioning step of claim 6.

With regard to these differences, the examiner determined (answer, p. 10) that "[i]t would have been obvious to one of ordinary skill in the art at the time of the invention to model paint droplet flow past an automobile because this would result in cost reductions as the paint would be applied more efficiently."

The appellants argue (brief, pp. 23-39) that a prima facie case of obviousness has not been presented since that examiner has failed to present evidence that would have led one of ordinary skill in the art to combine the relevant teachings of the references to arrive at the claimed invention. We agree.

The combined teachings of the Kinema/SIM Manual and Strumolo are suggestive of utilizing the interactive software tool taught by the Kinema/SIM Manual to predict sound pressure levels within a vehicle as taught by Strumolo. The combined teachings of the Kinema/SIM Manual and Strumolo are not suggestive of a system or method for designing a vehicle which utilizes both a computer aided design (CAD)

model representative of a desired portion of a vehicle and a paint spray gun simulation as recited in claims 1 to 6.

The combined teachings of the Kinema/SIM Manual and Miller are suggestive of utilizing the interactive software tool taught by the Kinema/SIM Manual to predict paint particle trajectories from a bell sprayer as taught by Miller. The combined teachings of the Kinema/SIM Manual and Miller are not suggestive of a system or method for designing a vehicle which utilizes both a computer aided design (CAD) model representative of a desired portion of a vehicle and a paint spray gun simulation as recited in claims 1 to 6.<sup>4</sup>

For the reasons set forth above, the decision of the examiner to reject claims 1 to 6 under 35 U.S.C. § 103 is reversed.

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<sup>4</sup> While a rejection of claims 1 to 6 under 35 U.S.C. § 103 based on the combined teachings of the Kinema/SIM Manual, Strumolo and Miller is not before us in this appeal, we nevertheless wish to point out that the combined teachings of the Kinema/SIM Manual, Strumolo and Miller are likewise not suggestive of a system or method for designing a vehicle which utilizes both a computer aided design (CAD) model representative of a desired portion of a vehicle and a paint spray gun simulation as recited in claims 1 to 6. The combined teachings of the Kinema/SIM Manual, Strumolo and Miller are suggestive of utilizing the interactive software tool taught by the Kinema/SIM Manual to both predict sound pressure levels within a vehicle as taught by Strumolo and to predict paint particle trajectories from a bell sprayer as taught by Miller. The mere fact that the prior art could be modified in a manner to arrive at the claimed subject matter does not make such a modification obvious unless the prior art suggested the desirability of the modification. See In re Gordon, 773 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984).



To summarize, the decision of the examiner to reject claims 1 to 6 under 35 U.S.C. § 102(b) is reversed and the decision of the examiner to reject claims 1 to 6 under 35 U.S.C. § 103 is reversed.

Charles E. Frankfort

  
JOHN P. McQUADE  
Administrative Patent Judge

  
JEFFREY V. NASE  
Administrative Patent Judge

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Appeal No. 2005-0994  
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